Amendments to the Specification:

Please replace the paragraph beginning at page 2, line 9 with the following amended paragraph:

Web resources exhibit a high correlation between semantic relevancy and spatial proximity, an observation that has been noted and widely exploited by existing search technologies. Pieces of knowledge close together in cyberspace tend to be also mutually relevant in meaning. An intuitive reason is that web developers tend to include both text and images in authoring pages meant to introduce certain information. In practice, current web-image search engines, such as Google, use keywords to find relevant images by analyzing neighboring textual information such as caption, URL and title. Most commercially successful image search engines are text-based. The web site "www.corbis.com" (Corbis) features a private database of millions of high-quality photographs or artworks that are manually tagged with keywords and organized into categories. The web site "www.google.com" (Google) has indexed more than 425 million ~~millions~~ web pages and inferred their content in the form of keywords by analyzing the text on the page adjacent to the image, the image caption, and other text features. In both cases, the image search engine searches for images based on text keywords. Since the visual content of the image is ignored, images that are visually unrelated can be returned in the search result. However, this approach has the advantage of text search, semantically intuitive, fast, and comprehensive. Keyword-based search engines (e.g. Google) have established themselves as the standard tool for this purpose when working in known environments. However, formulating the right set of keywords can be frustrating in certain situations. For instance, when the user visits a never-been-before place or is presented with a never-seen-before object, the obvious keyword, name, is unknown and cannot be used as the query. One has to rely on physical description, which can translate into a long string of words and yet be imprecise. The amount of linguistic effort for such verbal-based deixis can be to involving and tedious to be practical. It should be appreciated that an image-based deixis is desirable in this situation. The intent to inquire upon something is often inspired by one's very encounter of it and the very place in question is conveniently situated right there.

Please replace the paragraph beginning at page 4, line 1 with the following amended paragraph:

In accordance with a still further aspect of the present invention, the mobile deixis device further includes a global positioning system (GPS) receiver to identify the geographical location of the mobile deixis device which can be used to eliminate any similar images that are known not to be located in the geographical location of the mobile deixis device. With such an arrangement, similar images found but not located in the general geographical area of the mobile deixis device can be eliminated to reduce the time needed by a user to identify ~~the~~ his or her location or objects in his or her field of view.

Please replace the paragraph beginning at page 13, line 29 with the following amended paragraph:

Although any image matching algorithm can be used, two common image matching metrics on the task of matching mobile location images to images on the World Wide Web were implemented. The first metric is based on the energy spectrum, the squared magnitude of the windowed Fourier transform of an image. It contains unlocalized information about the image structure. This type of representation has been demonstrated to be invariant to object arrangement and object identities. The energy spectrum of a scene image stays fairly constant despite the presence of minor changes in local configuration. For instance, different placements of people in front of a building should not affect ~~its~~ the image representation too dramatically. The second image matching metric is based on wavelet decompositions. Local texture features are represented as wavelets computed by filtering each image with steerable pyramids with 6 orientations and 2 scales to its intensity (grayscale) image. Since this provides only the local representation of the image, the mean values of the magnitude of the local features averaged over large windows are taken to capture the global image properties. Given a query mobile image of some landmark, similar images can be retrieved by finding the k nearest neighbors in the database using either of the two metrics, where $k = 16$. However, the high dimensionality (d) of the feature involved in the metric can be problematic. To reduce the dimensionality, principal

components (PCs) is computed over a large number of landmark images on the web. Then, each feature vector can be projected onto the first n principal components. Typically, $n \ll d$. The final feature vector will be the n coefficients of the principal components. In an alternative embodiment, image matching using the "SIFT" local feature method was used. It should be appreciated that there are many other possible features and any one of the various techniques could be used.

Please replace the paragraph beginning at page 16, line 5 with the following amended paragraph:

Referring now to FIG. 5C, a flow diagram 270 showing the steps the processor 30 and the web server 24 would perform for alternative embodiment are shown. As shown in process step 272, a user causes the handheld device 10 (mobile deixis device 10) to capture an image as shown in window 210 (FIG. 2) to send as a query. As shown in process step 274, connected the network 20, the handheld device 10 communicates the captured image to a web server which could be web server 24 (FIG. 1A) to find images similar to the captured image. It should be appreciated that web server 24 in this implementation includes a pre-programmed database including images of interest and corresponding data. The captured image is used as a query to find similar images from the small image database using content-based image retrievial (CBIR) techniques. As shown in process step 24, if the results from the query are not satisfactory, the handheld device 10 can communicate with the server 24 to cause the server 24 to search further computers, i.e. computers 24a, 24b, for images similar to the captured image. As shown in process step 278, the results from the further query is provided with each image having an associated keyword~~keywords~~ that helps describe the image and an associated URL. As shown in process step 280, a user can then select one of the images and the content from the associated URL is then displayed. With this technique, if the web server 24 is missing the necessary images to provide a bootstrap database to complete the initial query, the query initiated by the hand held device 10 can cause the computer 24 to build additional data sets for various images of interest.

Please replace the paragraph beginning at page 17, line 1 with the following amended paragraph:

It should be appreciated that FIGs. 4A, 5A, 5B and 5C show flowcharts corresponding to the above contemplated techniques which would be implemented in the mobile deixis device 10 (FIG. 1). The rectangular elements (typified by element 252 in FIG. 5B), herein denoted "processing blocks," represent computer software instructions or groups of instructions. The diamond shaped elements (typified by element 258 in FIG. 5B), herein denoted "decision blocks," represent computer software instructions, or groups of instructions which affect the execution of the computer software instructions represented by the processing blocks.

Please add the following <u>new</u> paragraph after the paragraph ending on page 17, line 21:

It should now be appreciated that a method for identifying a location comprises the steps of: (i) providing a database of images, each image having an associated URL that includes said image and a description of the image; (ii) comparing an image of an unknown location with images from the database of images and providing a list of possible matching images; and (iii) reviewing the images in the list of possible matching images until the correct location is identified. In one embodiment, the comparing step includes comparing at least one of energy spectrum data, color histogram data, primitive filter data, and local invariant data. In another embodiment, the comparing step comprises at least one of the techniques including a least square matching technique, a normalizing the image technique, an eigen value technique, a matching histogram of image feature technique and an image matching engine with transformation technique.